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AUTHOR Arterbury, Elvis; And Others
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ABSTRACT

The paper reviewed existing evaluative studies indicative of the efficacy of the career awareness element of career education. The studies represent a sampling of the degree of success achieved in implementing and evaluating career education across the nation. Information sources included the U.S. Office of Education and the National Institute of Education, State Departments of Education, exemplary State programs, participants of national career education miniconferences, and an ERIC search. A general agreement existed with regard to definitions of what career education means; however, conceptualizations of career awareness and other elements of career education were more diverse. Psychological and economic theoretical domains in the conceptualization of career awareness were more prominent than the sociological domain. Program development and implementation appeared more advanced than evaluation/assessment. There was a tendency to assign a low priority to evaluation, and problems existed with evaluation design and measurement instruments. There was considerable lack of specificity among objectives identified under the career awareness concept. However, analysis of the information accumulated revealed that adequate evidence is available to support the Position that career awareness programs can make a difference. An eight-page bibliography is included. (Author/EA)

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THE EFFICACY OF CAREER EDUCATION, CAREER AWARENESS

Presented to
The National Advisory Council
on
Career Education

Elvis Arterbury
John Collie
Dave Jones
Jayne Morrell

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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INTRODUCTION

The concept of career education has probably received more attention and created more discussion than any other concept to arrive on the American education scene in recent years. It is broadly supported by parents, educators and communities across the nation.

The U. S. Office of Education under former Commissioner Sidney P. Marland, Jr., was largely responsible for the stimulation given to the idea of career education and while the Office tended to avoid suggesting any definition, Dr. Marland wrote the following in American Education (1971):

> . . .what the term 'career education' means to me is basically a point of view, a concept--a concept that says three things: First, that career education will be part of the curriculum for all students, not just some. Second, that it will continue throughout a youngster's stay in school, from the first grade through senior high and beyond, if he so elects. And third, that every student leaving school will possess the skills necessary to give him a start to making a livelihood for himself and his family, even if he leaves before completing high school.

Many statements defining career education have been formulated. There tends to be generic elements within the vast majority of these definitions. For example, Dr. Rupert Evans (1972) stated, "career education is the total effort of the community to develop a personally satisfying succession of opportunities for service through work, paid or unpaid, extending throughout life." In a policy paper of the U. S.

Office of Education (1974), "An Introduction to Career Education," Dr. Kenneth Hoyt, Director of Career Education, USOE, defined career education as "the totality of experiences through which one learns about and prepares to engage in work as part of her or his way of living."

SCOPE OF THE PAPER

There are common elements and characteristics contained in many of the definitions of career education. One of these elements is referred to as career awareness. The authors attempted to review all pertinent literature concerning the evaluation of the career awareness element of career education. A coordinated effort was made to systematically gather appropriate data. Personal visits were made to the U. S. Office of Education and the National Institute of Education to review materials in their retrieval systems. Letters were sent to all state departments of education requesting their assistance in the identification of exemplary programs in their state. Requests for data were then sent to the educators responsible for the identified programs. Participants in the Career Education Mini-conferences sponsored by the USOE Office of Career Education and numerous personal acquaintances were contacted. An ERIC search was conducted. These activities produced a large quantity of information. However, because of the diversity in conceptualizations, implementation methodologies and evaluation designs, a comprehensive state of the art report was not feasible. The scope of this paper is therefore limited to a review of information that is representative

of the efficacy of the career awareness element of career education. Selected conceptual statements regarding career awareness from different sections of the country are identified. Various techniques utilized to evaluate career awareness and the subsequent results are also addressed in this paper.

CONCEPTUALIZATION

The information reviewed reflected disparities in the conceptualization of career awareness. Datta (1975) reported that theories of career development can be categorized into economic, psychological and sociological domains. The findings of the studies reviewed tend to support this view. The authors have presented selected conceptualizations as examples of each theoretical domain.

Economic Based Conceptualizations

The Curriculum Development Center, Vocational Education, University of Kentucky (1972), described career awareness as "a knowledge of the total spectrum of careers."

Psychological Based Conceptualization

Herr (1972) stated that students need clarification of those aspects of the self--e.g. interests, capabilities, values--which need development for a lifelong process of planning and decision making. Within the individual must be fostered a conscious awareness that he does have a choice.

Sociological Based Conceptualization

Leifer and Lesser (1975) stated, "rarely are career choices

made by matching the demands made by various sorts of work with the personal skills and interests of those selecting the occupation." While not developing a statement with regard to the specific term career awareness, Leifer and Lesser did identify elements of a desirable career education program. This program would for example include parental, peer and school influences; occupational models available in the community, including parents, relatives and neighbors; rate and direction of social mobility; and availability of training and apprenticeship opportunities.

Many of the conceptualizations, however, tended to combine domains. In fact, the majority appeared to be based on a combination of psychological and economic theories. Representative definitions of career awareness are described in the following paragraphs.

The Business and Professional Women's Foundation (1974) stated: "Awareness involves those basic experiences that are introductory in nature and is concerned with the development of attitudes, interests and elementary understandings as these relate to individuals as they learn about the world of work."

According to Gibson (1973), "At the career awareness phase of a school program emphasis should be given to attitude development, decision making, and self awareness as well as awareness of and knowledge about the broad characteristics and expectations of work."

The National Institute of Education paper, "A Conceptual Framework and Rationale for the Career Awareness Division," April 1975, cited four elements that encompass the conceptual dimensions of career awareness. These were defined as follows:

> Occupational Knowledge: factual information about the skills and educational requirements of an occupation, the nature of the occupation in terms of its processes and products, its potential for access, advancements, and benefits.
>
> Occupational Preferences: the set of occupation or adult roles which fall on a continuum of aspiration, preference, interest, or liking.
>
> Occupational Values: beliefs concerning the status of occupations and what an individual considers important with respect to aspects of work and the place of work in adult life.
>
> Occupational Self Concept: beliefs an individual holds about the abilities he or she has and how successful he or she would be at an occupation or occupational role.

Spradle (1973) referred to lifestyle in describing career awareness:

> Students must learn about the occupational cultures they will be a part of for any particular career. The world of work. . . is a lifestyle, a set of values and assumptions. It means membership in a group with its own customs and mores.

A report published by the Indiana State Department of Public Instruction (1973) described career awareness as an elementary program which would include self awareness and a realistic awareness of the world of work which will assist students in gaining respect for work and appreciation for its importance to our society.

The Houston Independent School District (1972) reported attempts: "To develop, at the elementary level, occupational awareness as an integral part of the instructional program so that each pupil may begin to develop self awareness and to formulate career thoughts, to ensure that eventually each pupil develops a clearer perception of himself and sees himself as a person of worth with a realistic and positive attitude toward becoming a productive worker."

Hoyt et al. (1972) summarized the thrust of the elementary school career education program:

> at the elementary school level, the components of career education most needed will emphasize helping students acquire positive attitudes toward work, toward all levels of occupations found in the society, and toward themselves as prospective workers.

The USOE (Hardwick, 1971) statement of career awareness objectives represents a conceptualization basically attainable at the K-6 level. The objectives are:

- To develop in pupils attitudes about the personal and social significance of work.
- To help each student become aware of himself as an individual and as a group member.
- To develop student awareness of many occupations and to expand the career aspirations of each student.
- To improve overall pupil performance by unifying and focusing basic subjects around a career development theme.

In summary, the review of information indicates that there are various conceptualizations of career awareness. The majority are concerned with the various aspects of the world of work, attitudes toward work and knowledge of one's own capabilities,

values and interests.

Although the career awareness element of career education has been described as a concept which starts in kindergarten and extends through life, the major emphasis appears to be at the elementary school level.

A REVIEW OF EVALUATIVE STUDIES OF CAREER AWARENESS

The purpose of this paper is to review representative studies that are indicative of the efficacy of the career awareness element of career education. In many instances the evaluation results reported were subjective in nature and did not provide quantitative information. The large number of studies in this category, however, represent a positive statement for the efficacy of career awareness. Even though many of the applied evaluation techniques fall short of experimental-design evaluation standards, these studies should not be ignored. The salient fact is that, in almost all instances, the multitude of studies reviewed showed positive results.

This section of the paper addresses the general state of the art in career awareness evaluation and presents quantitative studies which are indicative of the efficacy of career awareness. Hoyt (1975) alluded to the pressures which may result in the premature evaluation of education programs.

> The birth of a new idea properly precedes its expansion into an educational concept. The for-

> mulation of a new concept properly precedes a concern for testing its efficacy. Global evaluation of a concept's efficacy properly precedes the formulation and testing of research hypotheses aimed at discovering optimal means of implementing the concept in educational practice. The critics of a new idea in Education typically use, as one weapon, a call for definitive research results even prior to the time the idea has been developed into a tentative concept form. This short set of generalizations could, I believe, be illustrated repeatedly by those who study the history of new ideas in American Education. Career Education is only the latest example.

A similar statement concerning evaluation of new education programs is reported by Datta (1975) who attributes to Timpane the notion that:

> ...when an idea is sufficiently attractive, no one will wait for evaluation information before mounting large programs while if there is enough caution to give time for evaluative studies, no one will be really interested in the results.

Datta further stated that lack of a research base describing the extent of the problem, lack of explicit and consistent objective statements, added to the technical limitations of measures of career development, suggest that programming has preceded ahead of the ability to evaluate program effectiveness.

The problems resulting from inadequate measurement instruments and faulty evaluation techniques are definitely evident. Some researchers have reported partial success in measuring the area of career knowledge. However, attempts to measure such elements of career awareness as self concept, societal responsibilities and values have met with little success.

Raleigh County West Virginia (1972) educators "...recognized that the exemplary aspects of career education could not result in evaluation procedures and instruments could not objectively predict, assess or measure specific areas of career awareness..." and based their evaluation procedures on subjective information obtained from interviews with individuals and groups. A majority of the projects' results reviewed supported this position. Measures for objectives in the affective domain tend to be unavailable and measures to determine the impact of one variable on another appear to be even more difficult to obtain.

In the cognitive domain problems also exist. Tuckman (1974) stated that:

> The measurement of career awareness, meaning knowledge of career characteristics and requirements, necessitates a cognitive instrument dealing with specific careers. In terms of general career awareness, the problem becomes one of deciding which careers to ask questions about; in terms of specific career awareness, the difficulty lies in finding or building tests in the large number of career areas that students might choose to pursue. Instrumentation in this area is also hard to find.

Wise, Charner and Randour (1975) indicate that the kinds of problems reviewed above result in an unequal handling of the measurement of career awareness. They maintain there is "a plethora of literature on educational-occupational aspirations and attainments, a small number of studies on occupational knowledge, and a paucity of research on occupational values and occupational self concepts."

Another aspect of the general problems associated with evaluation is the relatively low priority assigned to the collection of evaluative data. Teachers and other potential users do not appear to recognize the positive benefits which can accrue to them through timely program evaluation. There is a reasonable possibility that there is a direct relationship between inadequate instrumentation, poor evaluation techniques, unequal handling of variables, and educators' perceptions of a lack of worth in evaluative information. Two studies reviewed reflect the priority which teachers assign to evaluation.

Holloway (1972) found that both elementary and junior high school teachers award low rankings to competencies which centered around evaluation, manpower trends and theories of career development. A 1974-1975 needs assessment survey of teachers in the Dallas Independent School District resulted in a similar low rating for evaluation. Dallas teachers recorded a negative score (perceived negative need) for research and evaluation services. Only two of the fifty-six topics rated received lower need scores.

A comprehensive review of career education project evaluations was conducted by Bruce W. Tuckman and Joseph A Carducci (1974). Their report classified the evaluations into experimental and quasi-experimental evaluative studies (i.e. quantitative data utilizing experimental and control groups, pre- and posttests or posttest only design), descrip-

tive studies (i.e. quantitative data utilizing pre- and post-testing of treatment groups only) and case studies (i.e. treatment group only and qualitative data). Chart 1 is a listing of studies taken from the Tuckman and Carducci study which deal with career awareness and self awareness.

The following additional studies which are pertinent to career awareness and self awareness project evaluations were reviewed. For purposes of this report only quantitative evaluations are presented.

The Pontiac Vocational Career Development Program (1971) attempted to increase the occupational knowledge and self concept of students. In evaluating the project the Occupational Knowledge Test (O.K.T.) and the Fantasy, Ability and Reality Scales (F.A.R.) were utilized. The three major findings were: (1) Students showed significant gain in their level of occupational knowledge, (2) Upper elementary children showed greater gain in occupational knowledge than did lower elementary children, and (3) At the end of the program students selected occupations of higher rank than they did at the beginning of the program.

Prince George's County Public Schools in Maryland (1975) included the following question in evaluating their career education program. "Do pupils involved in career education acquire more knowledge about the world of work than do controls?" The results of their study found that at each grade level (with

STUDIES REVIEWED BY TUCKMAN AND CARDUCCI RELEVANT

TO CAREER AWARENESS AND SELF AWARENESS

Author and Site of Study	Grade Level	Instrument	Analysis	Findings
Cochran and Weis (1972) Dayton, Ohio	9-10	Ohio Vocational Interest Survey	Analysis of covariance	"...student from the vocational school were better informed about career choice..."
Holstein (1972) Lincoln Co., West Virginia	1-6	Homemade test of occupational awareness	Analysis of covariance	"...career education students outperformed control students on all measures."
Ovard (1973) Utah	6	Not specified	Chi square	"...students showed favorable change in attitude toward work.."
Sims (1973) Cleveland, Ohio	5-6	Job information questionnaire	Analysis of variance	"...treatment schools students had acquired more job information than the control."
McNulty (1974) Massachusetts	11-12	Career Maturity Inventory	Analysis of covariance	"...positive correlation between scores for all students.."
Warren (1974) Kansas	6-8	Career Maturity Inventory	t-test	"...significant differences in mean scores in favor of treatment group."
Bariolo (1972) Alameda Co., Calif.	Elem.	Occupational Information Survey	t-test	"...yielded greater gains for treatment students than for controls at elementary level."
Cunningham (1973) New Britian, Conn.	Elem.	How I See Myself Scales	t-test	"...showed significant differences between the control and experimental groups."
Dennard (1973) Clayton Co., Geo.	4	Student Knowledge of Careers	not specified	"...fourth graders in program had greater knowledge of careers than those not in program."
Holden (1973) South Carolina	Elem.	A battery of cognitive and affective instruments	not specified	"Kershaw and Chesterfield counties were fairly successful in efforts to teach elementary school students about careers."
Peck (1973) District of Columbia	K-9	Self Observation Scale	not specified	"...showed CDEP children to have better self-concept than controls."
"	"	Work Attitude Survey	not specified	"...revealed CDEP students had more positive attitudes toward work than controls."
"	7-9	Occupational Values Inventory	not specified	"...students were realistic in their career planning."
"	6-9	Career Awareness Development Inventory	not specified	"...students were able to relate school-learned skills to work situations at reasonable level of proficiency."
Young (1971) New Orleans	1-8	Attitude Toward Work Inventory	t-test	"A significant positive gain was found for students in grades 1-8."
Harmond (1973) Harrington, Maine	7	Occupational Knowledge Test	t-test	"...significant gain in mean scores of

the exception of ninth grade) the experimental groups scored higher than the controls. Statistical significance was reached at grade levels 6, 7, 11 and 12.

The Career Based Curriculum Project in Monroe, North Carolina (1975) evaluated two goals for their elementary program relative to self awareness and career awareness. Goal 1: To increase each child's self awareness, encouraging a positive self concept. The Self Observation Scales (SOS) were used to measure the students' self awareness. Statistically significant differences occurred on six of the eight scales for third graders. Goal 2: To increase the pupils' awareness of the many occupations and job roles in the community. This goal was measured by asking the students to "list as many kinds of workers as you can." Students in the third grade Project schools listed more at the .05 level, than did third graders in the control schools. The mean number of workers listed by sixth graders in Project schools was significantly higher than sixth graders in the control schools at the .01 level.

The Research and Development Project in Career Education in Wichita, Kansas utilized the Career Knowledge test at the primary level in the pilot elementary schools. The Occupational Similarities Scale showed a significant difference at the .05 level between pre- and posttests on students at the K-2 level. At the Intermediate level (3-6) the Orientation of Career Concepts (OCC) was administered and statistically significant differences were found on the Vocational Vocabulary Scale (.01), the Working Conditions Scale (.05) and the Worker's Earnings Scale (.05).

Unified School District No. 250 of Pittsburg, Kansas utilized the Self Observation Scales and the Career Maturity Inventory to evaluate their career education programs. Approximately 200 students randomly selected from all six of the elementary schools in Unified School District No. 250 were tested as the experimental group. A parochial school which did not have a career education program was used as a control group. At grade three the results of the Self Observation Scales showed that out of eighteen possible comparisons (i.e. six schools x 3 scales) the schools in the Unified School District No. 250 exceeded the national norm of fifty and the average percentile score of the control group in twelve cases. At grade six the results show that of a possible thirty comparisons (i.e. six schools x 5 scales) the sixth graders exceeded the national average of fifty in twenty-four of the thirty situations. These students also exceeded the average percentile score of the control group in twenty-eight of the thirty comparisons. The evaluation of the ninth graders used the Career Maturity Inventory and a statistically significant difference was found between the experimental and control groups on Part 2: Knowing About Jobs.

A report on a Research and Development Project in Career Education (1974) from the Department of Education in Pennsylvania presents a study to determine the effects of project activities on the children involved. Matched samplings of third and fifth grade students were compared. The comparisons, made between highly involved and moderately involved students, revealed that

the third graders who were highly involved could list more occupations in one minute than their less involved counterparts. The highly involved fifth graders were superior to the moderately involved group with respect to self concept development and attitude toward school.

Behavioral Research Associates evaluated the Pima County Developmental Career Guidance Project (1975). They concluded that:

> Students exposed to career education demonstrated a greater awareness of the world of work. On every index designed to measure career-awareness, economic-awareness, and decision-making, the students with career education exposure scored higher. One of the most consistent findings in the data is that students with career education exposure are more knowledgeable about a variety of occupational clusters, representing the entire range of jobs. This finding reflects favorably on the Arizona Career Education Effort, and highlights one major goal of career education which is to expand the students' conceptualization of the economic marketplace.
>
> Students exposed to career education: (1) have knowledge of a wider range of occupations both between and within occupational categories, (2) have more ability to evaluate the skills needed in preparation for certain occupational choices, and (3) have more self-confidence that their goals are both realistic and achievable.

Pima County also includes an evaluation of self awareness. Their findings suggest:

> One of the most promising findings this year is related to the area of self awareness. Students in the high career education group were more certain of attaining their educational and occupational aspirations, rated themselves favorable relative to other students in their grade level, and expected higher achievement for themselves compared to students in the low involvement group. Since there were no population differences in the two groups, these data demonstrate project efforts in the area of self awareness have had some success this year. Efforts should continue along these lines next year, since the findings this year are more significant in the trend that is seen, rather than in the statistical differences between high and low exposure students.

"An Evaluation of Vocational Exemplary Projects" was prepared by Development Associates, Inc. (1975). Forty-five projects were studied utilizing a variety of measurement instruments including the Career Maturity Inventory to determine significant differences between participants on eight outcome questions relevant to the study. Chart 2 is taken directly from their report to show the findings of the evaluation.

CHART 2

Summary of Conclusions for Outcome Questions Across all Projects by Student Group*

Outcome Questions / Student Groups	6th Grade	9th Grade	12th Grade			
			Participating Teacher	Counseling Group	Work Experience	Skill Training
Are student participants able to identify a greater number of occupations than non-participants? (Q1)	Yes	Yes	Yes	Yes	No	No
Do students demonstrate more familiarity with tasks and functions associated with selected occupations than the comparison group? (Q2)	No	Yes	Yes	Yes	No	No
Are student participants more familiar with the requisites associated with selected occupations than the comparison group? (Q3)	Yes	No	No	No	No	No
Do student participants score higher on pre-vocational, job readiness tests than the comparison group? (Q4)	Yes	No	No	No	No	No
Do student participants indicate more positive attitudes toward employment than non-participants? (Q5)	Yes	No	Yes	No	No	No
Is the variety of careers being considered by individual participating students greater than that of students in the comparison group? (Q6)	No	No	No	No	No	No
Do more student participants indicate having a career plan than the comparison group? (Q8)	--	No	Yes	No	No	No
Do more student participants cite their career preference as their expected career than non-participants? (Q10)	--	--	No	Yes	No	Yes

*The questions were answered "yes" if there was an overall significant difference in favor of participants for any of the criteria used to assess the question.

A study was conducted in three elementary schools in the Fort Osage Public School District R-1, Independence, Missouri (1974). The purpose of the study was to test the effect of in-service teacher training in career education on the achievement of students. The study consisted of two experimental treatments (Methods A and B) and a conventional treatment (Method C). Method A refers to the approach to teaching selected career education concepts by teachers who had received a three-week orientation to the career cluster concept and who had written curriculum oriented to the cluster concept over an additional three-week period. Method B refers to the teaching of selected career education concepts by teachers who had received a three-hour orientation to the career cluster concept, who had not written curriculum oriented to the career cluster concept, but who taught the curriculum which had been developed by their colleagues in Method A. Method C refers to the conventional approach to teaching fourth and fifth grade elementary school students. The teachers were encouraged to teach the concepts of career education but were given no assistance in securing career-oriented career units developed by their colleagues in Method A. As a result of testing, the students who experienced Treatments A and B made significantly higher gains in achievement of career awareness and self awareness.

Westborough Junior High School, South San Francisco provided the evaluation data on their Career Education Project (1975). They give the percent average loss or gain on pre- and posttests of the target school and the control schools on three scales:

self-awareness, occupational information and school/college information. The results are shown in Chart 3.

CHART 3

Project 1690: % loss or gain shown between September 1974 Pretesting and Posttesting, May 15, 1975

SUMMARY OF COMPARISONS BETWEEN TARGET AND CONTROL SCHOOLS

MATCHED POPULATIONS

TARGET SCHOOL		CONTROL SCHOOL	
SELF-ASSESSMENT QUESTIONS			
7th Grade	TOTAL AVERAGE LOSS OR GAIN +19%	7th Grade	TOTAL AVERAGE LOSS OR GAIN +23%
8th Grade	TOTAL AVERAGE LOSS OR GAIN +19%	8th Grade	TOTAL AVERAGE LOSS OR GAIN -6%
9th Grade	TOTAL AVERAGE LOSS OR GAIN +26%	9th Grade	TOTAL AVERAGE LOSS OR GAIN +14%
OCCUPATIONAL INFORMATION QUESTIONS			
7th Grade	TOTAL AVERAGE LOSS OR GAIN +17%	7th Grade	TOTAL AVERAGE LOSS OR GAIN -8%
8th Grade	TOTAL AVERAGE LOSS OR GAIN +17%	8th Grade	TOTAL AVERAGE LOSS OR GAIN +3%
9th Grade	TOTAL AVERAGE LOSS OR GAIN +21%	9th Grade	TOTAL AVERAGE LOSS OR GAIN +16%
SCHOOL/COLLEGE INFORMATION			
7th Grade	TOTAL AVERAGE LOSS OR GAIN +15%	7th Grade	TOTAL AVERAGE LOSS OR GAIN +2%
8th Grade	TOTAL AVERAGE LOSS OR GAIN +16%	8th Grade	TOTAL AVERAGE LOSS OR GAIN +2%
9th Grade	TOTAL AVERAGE LOSS OR GAIN +37%	9th Grade	TOTAL AVERAGE LOSS OR GAIN +17%

Behavioral Research Associates prepared the evaluation report of the Cochise County Career Education Project (1975). Chart 4 presents the results of the evaluation showing significant differences on all variables between a high exposure to career education sample and a low exposure sample. Cochise County also includes an evaluation of self awareness. Self awareness is measured by the

student's responses to four questions. One question covers self expectations for school performance. Another question asks the students to compare themselves with other students in terms of how right they are. The remaining two questions deal with the student's certainty of attaining educational and occupational aspirations. The results indicate that students in the high exposure sample were consistently more positive in terms of self awareness than the students in the low exposure sample as measured by the four questions.

Chart 4

COMPARISONS OF STUDENTS WITH HIGH AND LOW EXPOSURE TO CAREER EDUCATION ON SEVERAL DIMENSIONS RELATED TO THE ARIZONA CAREER EDUCATION MATRIX

		High Exposure Sample	Low Exposure Sample	t-test	Significance
	Secondary Students				
	Educational Awareness	46.8	44.3	3.01	0.001
areer wareness	Knowledge of Skill Req.	54.5	49.6	2.40	0.01
	Knowledge of Factors Contributing to Job Satisfaction	63.8	55.7	3.40	0.001
	Common Threads in Jobs	68.2	57.0	4.64	0.001
conomic wareness	Economic Awareness	53.1	48.5	1.83	0.04
	Awareness of Career Mobility	40.9	34.0	2.78	0.003
	Awareness of Factors Influencing Occup. Structure	53.2	47.7	2.27	0.002
	Decision Making	35.3	30.2	2.94	0.001
	Employability Skills	26.6	24.4	3.04	0.001
	Appreciations and Attitudes	45.3	37.0	3.90	0.001
	Knowledge of Career Clusters Score	34.2	30.8	1.85	0.04
	Interest in Career Clusters Score	25.9	24.7	1.97	0.025
	Elementary/Intermediate Students				
	Educational Awareness	50.1	48.5	1.86	0.05
reer areness	Knowledge of Skill Req.	59.4	50.5	3.45	0.001
	Knowledge of Factors Contributing to Job Satisfaction	54.6	48.5	2.57	0.005
	Common Threads	65.7	59.8	2.12	0.01
	Economic Awareness	58.2	52.6	2.24	0.01
	Decision Making	61.5	54.7	2.67	0.005
	Appreciation and Attitudes	60.2	54.9	2.01	0.020
	Knowledge of Career Clusters Score	49.9	44.8	2.28	0.01

SUMMARY

The purpose of this paper was to review existing evaluative studies that are indicative of the efficacy of the career awareness element of career education. The studies discussed represent a sampling of the degree of success achieved by educators in implementing and evaluating career education across the nation.

The information revealed that there is general agreement with regard to definitions of what career education means. However, conceptualizations of career awareness and other elements of career education are more diverse. As more specific objectives, program implementation and evaluation are addressed less agreement and greater disparities appeared.

Most practitioners include varying aspects of psychological and economic theoretical domains in their conceptualizations of career awareness. The sociological domain is much less prominent among the studies reviewed.

It is evident that program development and implementation are well in advance of evaluation and assessment. There is a tendency to assign a low priority to evaluation and problems exist with evaluation design and measurement instruments. Several factors contribute to these difficulties. Teachers do not recognize the potential value of evaluative studies. There is considerable lack of specificity among objectives

which have been identified under the career awareness concept. Measurement methodologies are varied and few standardized instruments are available. Measures for objectives in the affective domain tend to be unavailable and measures to determine the impact of one variable on another appear to be equally scarce. There is an unequal handling of the measurement of career awareness.

Although not exhaustive, the studies referenced in this paper are descriptive of the extent to which the concept of career education and, more specifically, career awareness programs are producing quantative data for evaluation purposes. Subjective evaluations of programs tend to be positive and the participants were favorably optimistic about the total effort. Analysis of the information accumulated reveals that adequate evidence is available to support the position that education programs designed to develop career awareness in students can make a difference. Based on the studies presented it can be concluded that regardless of the variety of definitions, the variety of implementation methods and the variety of evaluative techniques, career education is making statistically significant changes in student development.

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